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ABSTRACT

This study was designed to determine the most common health needs and problems that family nurse practitioners (FNP) deal with, to determine how competent FNPs judge themselves to be, to determine what sources in nursing education FNPs judge to be most valuable, and to determine whether or not there were significant differences in the level of current competency which FNPs judge themselves to have and their frequency of need for this competency. Using a questionnaire designed especially for this study, data were collected from 327 nurses. The returns came from forty states and represented an eighty-three percent return rate. Data were analyzed using summary statistics, analysis of variance, and Newman-Keuls multiple comparison technique. Results identified the most common patient problems respondents encountered in each of twelve major health categories, how competent they judged themselves to be to assess and manage the problems, and where in nursing education they recommended the development of competency to assess and manage these problems be emphasized. (Complete data analysis is included along with discussion of implications for nursing education and suggestions for further research.) (BB)

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A STUDY OF FAMILY NURSE PRACTITIONERS: PERCEIVED COMPETENCIES AND SOME OF THEIR IMPLICATIONS FOR NURSING EDUCATION

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BACKGROUND

This study was designed to help overcome the limited research available that pertains to Family Nurse Practitioners and to provide information that would be useful in developing and implementing curricula that would make it possible for nurses preparing to function as primary care Family Nurse Practitioners to possess the knowledge, skills and techniques essential to meet the health care needs and problems of their patients.

The nursing profession with its 800,000 members represents the largest, best-prepared, potential reservoir of professional health care personnel to help extend the availability and accessibility of health care services in the United States today. Patterns of nursing education have always been based upon the perceived health needs and problems of the society which nursing serves. The ultimate goal of all basic nursing education is the preparation of a professional individual with a sound knowledge of biological, behavioral, physical and social sciences. This professional nurse is capable of providing care, cure, counseling and coordination in the area of health care in a personalized, humanized manner to a person or persons unable to cope alone.

Graduate nursing education is available at both the masters and doctoral levels. Graduate education in nursing

prepares the nurse for clinical specialization, research and for functional areas of practice such as teaching and administration.

The inclusion of schools of nursing within colleges and universities has brought new insights into nursing education from the behavioral sciences and the humanities, as well as improved and expanded courses in the physical and biological sciences. The addition of the skills and concepts of psychiatric and community health care has broadened the scope of nursing practice and has increased the nurse's awareness of the interaction of patient, family, community and political structures. These factors, along with the growing realization of the importance of early disease detection and treatment, the need for health counseling, the need for someone to care for the "worried well," and the need to provide continuity of care have combined to convince many persons that nurses are prepared to function at a higher level of practice than is currently the case.

New and better ways to use the nurse's time, talents and efforts are being explored, but in this exploration, nursing is not being replaced with something new, rather, the present nursing role is being expanded (McGivern, 1974). In response to the shortage of qualified physicians and the growing demands for additional access to health care, nursing practice has become increasingly complex and nursing has taken on many

functions which formerly lay exclusively within the domain of medical practice. Recent changes in some of the statutes which regulate nursing practice in each state point to an acceleration of this trend. These changes are based upon the belief that nurses, because of their established role and their enriched educational background are increasingly well-qualified to fill the gaps in health care which exist today. Such extended utilization of nurses will amplify the role of nursing while meeting many health care needs not currently being met.

The literature reviewed led the investigator to the following conclusions concerning the nurse practitioner concept: (1) the role of the nurse practitioner is dynamic, evolving one with many variations, (Bates, 1970; Brunetto and Birk, 1972; Golden, 1971; Greenberg, 1974; Lewis and Resnik, 1967; Sheedy, 1971; Silver, 1968; Schutt, 1972); (2) nurse practitioners are successfully assuming many of the activities, functions, duties and responsibilities in the area of primary health care which were traditionally reserved for the physician in general or family practice, the internist, and/or the pediatrician, (Andrus, 1975; Bates, 1970, 1972; Brunetto and Birk, 1972; De Mers and Weinstein, 1973; Duncan and Silver, 1970; Golden, 1971; Greenberg, 1974; Lewis and Resnik, 1967; Lockerly, 1971; Merenstein, 1974; Popiel, 1973; Riddick, 1971; Silver, 1968); (3) evaluations undertaken by various

projects to determine the competency of their own nurse practitioners have shown that these practitioners were safe, competent professionals who knew and recognized their own limitations and whose judgment could be trusted, (Bates, 1972; Brinton, 1972; Greenburg, 1974; Lewis and Resnick, 1967; Merenstein, 1974; Popiel, 1973; Sackett, 1974; Schulman and Wood, 1972; Silver and Duncan, 1969; Spitzer, 1973); (4) nurse practitioners are recognized by some physicians, patients and families as being able to make a significant contribution to the improvement of health care in the United States, (Bates, 1972; Charney and Kitzman, 1970; Day, 1970; Erickson and Schoen, 1970; Greenberg, 1974; Golden, 1971; Gozzi, 1970; Hockelman, 1972; Lewis and Resnick, 1967; Merenstein, 1974; Mossey and Nicholson, 1970; Riddick, 1971; Sackett, 1974; Schiff, 1969; Silver, 1969; Schulman and Wood, 1972; Skinner, 1968; Yankover, 1972); and (5) educational preparation of nurse practitioners for family-oriented primary health care is a complex, intricate problem which should be addressed without undue delay (Backscheider, 1971; Bates, 1970; Bates and Lynaugh, 1973; Bowns, 1972; Carl, 1972; French, 1972; Ford, 1971; Gozzi, 1970; Hagopian, 1974; Hoffheimer, 1972; Januska, 1974; Leninger, 1971; Malkemes, 1974; McGivern, 1974; McIntyre and Watkins, 1972; Silver and Ford, 1968).

Purposes of the Study

The following purposes were fundamental to this study:

(1) To identify the most common health needs and problems of the population for whom Family Nurse Practitioners provide health care;

(2) To determine how competent Family Nurse Practitioners judged themselves to be to perform the activities necessary to try to alleviate the patient health needs and problems they encounter;

(3) To determine what sources in nursing education Family Nurse Practitioners judged to have been responsible for the major portion of their current competency to perform these activities;

(4) To determine where, in the sequence of nursing education, Family Nurse Practitioners recommended that the development of competency to perform these activities receive its greatest emphasis;

(5) To determine whether or not there were significant differences in the levels of current competency which Family Nurse Practitioners judged themselves to have and their frequency of need for these competencies when their responses were compared on three different

practice characteristics, i.e., present practice sites, population settings and economic settings.

Definitions

Family Nurse Practitioner (FNP)--a registered nurse who makes initial and/or continuing assessments of the health status of a person of any age group independently or in collaboration with others. This nurse is prepared to take health histories; to perform physical examinations; to diagnose, treat and manage common health problems; to recognize health needs and problems and, depending upon the need or problem encountered, to provide care alone or jointly with other health care workers or to initiate referrals for health care needs and problems that are beyond his/her scope of practice. The Family Nurse Practitioner is aware of the limits of his/her knowledge and skills and works closely and interdependently with physicians and other health professionals in order to provide the best possible care for patients.

Health care--activities initiated to help a person maintain, regain or attain a state of dynamic equilibrium in relation to his total enviornment--physical, mental, emotional and ecological.

Primary health care--actions by professional health care personnel that occur at the patient's initial point of contact with the health care system. It may include initial care for needs and problems as they arise; continuous care for chronic needs and problems; activities,

guidance and supervision for health promotion, maintenance and disease prevention--all with referrals to other appropriate professionals for diagnosis and mangement when the patient's need or problem so indicates.

Nursing education--a planned sequence of learning experiences with a major emphasis on nursing to assist a participant to attain an agreed upon level of competence.

Competency--knowledge, skill and ability to accomplish a task in a safe, effective manner.

Health need/problem--any deviation from an optimum state of physical, mental and emotional wellness which may or may not be recognized by an individual or a group and if recognized, may or may not lead the individual or group to seek aid.

Ghetto--that section of a town or city inhabited by the economically poverty-stricken residents of that town or city.

Rural area--an unincorporated area or incorporated area of the United States with a population of 2,500 persons or less as determined by the 1970 United States Census Report.

RESEARCH DESIGN

Because of the nature of the data sought, an exploratory survey which utilized mailed questionnaires was deemed the most appropriate method for this study. A detailed questionnaire was developed specifically for this

study, and the names and addresses of a potential sample population of nurses throughout the fifty states were compiled.

Potential Study Sample

The potential study sample consisted of nurses throughout the United States who were tentatively identified as currently serving as Family Nurse Practitioners providing primary health care according to the operational definition of that role for the purposes of this study. These nurses were identified through careful and persistent efforts involving consideration of many sources. Among these sources were:

(1) Records of educational programs preparing nurses to serve as Family Nurse Practitioners;

(2) Records of professional organizations;

(3) Records of Regional Medical Programs;

(4) Records of state health departments;

(5) Reviews of professional literature.

Based upon initially available information, N was estimated to be approximately six hundred forty nurses.

Study Instrument

During its development, steps were taken to insure the validity and reliability of the study questionnaire.

The contents of the instrument were based upon: consultations with experienced health care resource personnel; a review of the goals, objectives, learning exper-

iences and evaluation instruments of educational programs for preparation of Family Nurse Practitioners; a review of professional health care literature; on-site visits, observations and consultations with nurses currently practicing as Family Nurse Practitioners; consultations with nurse-educators and nurse-researchers; and the professional experience of the investigator and her peers.

Drafts of the study questionnaire, accompanied by an explanation of the purposes of the study, were submitted to Family Nurse Practitioners, other registered nurses, nurse-educators, nurse-researchers and graduate nurse students as well as graduate students, researchers and members of several other professional fields. Fifteen persons were asked to review and pretest the questionnaire for content, clarity and suitability for its purposes and to make suggestions for revisions and improvements. The final questionnaire was the result of the revisions which were made in response to these reviewers' suggestions.

The survey questionnaire was developed over the period of eighteen months. It consisted of two sections. The first section was an activity inventory which focused on the health needs and problems a Family Nurse Practitioner might encounter in providing primary health care for a population in all age groups. Responses to specific questions regarding each item in the inventory were to be made by circling numbers on a numerical scale. The second section of the questionnaire consisted of items to

elicit demographic data about the practitioner and his/her practice.

The questionnaire covered fifteen major categories of health care activities. Each of the major categories addressed itself to specific patient health needs and/or problems which a Family Nurse Practitioner might encounter during practice and to specific skills the Family Nurse Practitioner might need in order to meet these needs and problems.

Four major questions were asked concerning each specific item in each of the fifteen categories of the questionnaire. Answer choices ranged from four (4) to six (6).

Operational definitions for the terms "Family Nurse Practitioner", "assess", and "manage", as they were to be interpreted for this study's purposes, were printed in the questionnaire booklet; this step was taken in an effort to minimize the number of meanings which might be attributed to these words by the study respondents. If the recipients did not consider themselves to be a Family Nurse Practitioner according to the study's definitions of that term, they were asked to return the questionnaire without having completed it.

Hoyt's procedure was used to estimate the reliability of the instrument used for this study. Reliability coefficients determined from individual scores on each item within each category of the questionnaire ranged from a high of

.94 to a low of .84 on the fifteen "Current Level of Competency" subtest categories and from a high of .95 to a low of .81 on the fifteen "Frequency of Need for Competency" subtest categories.

Data Collection

Six hundred forty data collection envelopes were mailed. Each envelope contained a copy of an explanatory cover letter and a copy of the questionnaire booklet. Fifty-eight of these envelopes were returned to the investigator by the United States Post Office after postal officials had been unable to deliver them to the addressees.

Four weeks after the initial mailing, the follow-up letter was sent to one-half of the nurses who had not yet responded to the original mailing. A follow-up letter plus a second copy of the questionnaire was sent to the remaining one-half of the nonrespondents. This approach was utilized merely to discover if there would be any difference in the subsequent response rate of the two groups. No such difference was discernible. Four weeks after the first follow-up mailing and eight weeks after the original mailing, a second follow-up letter was sent to each of the nonrespondents.

Three weeks after the second follow-up mailing and eleven weeks after the original mailing, a third follow-up mailing was sent. Those nurses who had not yet responded but who had already received a second copy of the questionnaire were sent another letter. Those nurses who had

not yet responded but who had been sent only one copy of the questionnaire were sent a letter and a second copy of the questionnaire.

Four weeks after the third follow-up letter and fifteen weeks after the original mailing, a letter accompanied by a two-page questionnaire was sent to each nurse who had not yet responded to the original questionnaire. This step was taken as a means to control possible bias in the study's results due to nonrespondents (Helmstadter, 1970, pp. 331-333). A comparison of the data obtained by the two-page questionnaire with the data obtained from comparable portions of the original questionnaire indicated that the responses of those nurses who did not answer the original questionnaire were not significantly different from responses received on the original questionnaire.

When analysis of the data was begun, final tabulation of the data collection procedure showed the following results:

Original mailing	640
Returned undelivered by postal service	58
Returned checked to indicate that the recipient did not fit within the study's operational definition of a Family Nurse Practitioner	186
Original questionnaires completed, returned and usable	327

Original questionnaires returned, incomplete and unusable 8

Short-form questionnaires completed and returned 33

Total from whom no response was received 28

The figures of 396 [640-(58 + 186)] and 327 were used to determine the percentage of returns for the study, i.e., 83 percent.

ANALYSIS OF DATA

The computer program STATISTICAL PACKAGE FOR THE SOCIAL SCIENCES (SPSS) was used to summarize the data collected by the study instrument. The analysis of variance was used to test for significance and data which were shown to be significant at the .01 level were further examined with the Newman Keuls multiple comparison technique.

Tables I and II present an overview of the study data which relates to the major questions covered by this study--"Current Level of Competency" and "Frequency of Need for Competency". These two tables show the fifteen major categories of the questionnaire, the number of items within each category, the maximum score possible for each category, the ranges, the means and the standard deviations of the aggregate scores tabulated in answer to these two questions. In order to provide a more meaningful picture of the relationships among the categories, a percentage figure for each category was calculated by dividing the

TABLE I

CURRENT LEVEL OF COMPETENCY: SUMMARY STATISTICS OF AGGREGATE SCORES

Category	%[a]	Maximum Possible Score[b]	Mean	Range	Standard Deviation
Consultations and Referrals (21 items)	95.31	84	79.06	49-84	9.26
General Health Care (20 items)	87.24	80	69.79	50-80	5.09
Laboratory Procedures (21 items)	78.08	84	65.59	30-80	11.82
Emergency Problems (26 items)	75.54	104	78.56	31-104	13.70
Gastroenterology Problems (16 items)	75.44	64	48.28	24-62	7.43
Allergy and Dermatology Problems (14 items)	72.04	56	40.34	14-54	7.45
Cardiovascular and Respiratory Problems (22 items)	70.41	88	61.96	26-86	11.14
Miscellaneous Problems (24 items)	69.25	96	66.48	26-93	10.76
Eye, Ear, Nose and Throat Problems (24 items)	68.50	96	65.76	24-95	11.28
Mental Health Problems (18 items)	65.37	72	47.07	21-69	9.10

[a]Mean score divided by maximum possible score.

[b]Number of items in each category X maximum response score for each item in the category, i.e. 4.

TABLE I (Continued)

CURRENT LEVEL OF COMPETENCY: SUMMARY STATISTICS OF AGGREGATE SCORES

Category	%[a]	Maximum Possible Score[b]	Mean	Range	Standard Deviation
Obstetrics and Gynecology Problems (18 items)	64.39	72	46.36	18-70	9.88
Endocrine Problems (10 items)	63.93	40	25.57	12-38	5.12
Neurology, Musculo-skeletal Problems (30 items)	61.28	120	73.35	31-116	14.97
Genitourinary Problems (14 items)	57.73	56	32.33	14-52	6.36
Cancer Problems (9 items)	50.64	36	18.23	9-32	5.54

[a]Mean score divided by maximum possible score.

[b]Number of items in each category X maximum response score for each item in the category, i.e. 4

TABLE II

FREQUENCY OF NEED FOR COMPETENCY: SUMMARY STATISTICS OF AGGREGATE SCORES

Category	%[a]	Maximum Possible Score[b]	Mean	Range	Standard Deviation
General Health Care (20 items)	67.68	140	94.85	40-125	13.37
Consultations and Referrals (21 items)	55.02	147	80.88	39-139	19.18
Laboratory Procedures (21 items)	54.97	147	80.81	24-131	24.19
Mental Health Problems (18 items)	45.64	126	57.51	42-96	10.47
Allergy and Dermatology Problems (14 items)	42.54	98	41.69	14-81	13.94
Cardiovascular and Respiratory Problems (22 items)	41.60	154	64.07	22-130	20.76
Gastroenterology Problems (16 items)	39.55	112	44.30	16-90	13.26
Eye, Ear, Nose and Throat Problems (24 items)	35.46	168	59.58	24-134	18.10
Miscellaneous Problems (24 items)	33.31	168	55.96	24-112	16.04
Emerge - Problems (26 items)	31.95	182	58.15	28-148	21.18

[a] Mean score divided by maximum possible score.

[b] Number of items in each category X maximum response score for each item in the category, i.e. 7.

TABLE II (Continued)

FREQUENCY OF NEED FOR COMPETENCY: SUMMARY STATISTICS OF AGGREGATE SCORES

Category	$\bar{X}$[a]	Maximum Possible Score[b]	Mean	Range	Standard Deviation
Endocrine Problems (10 items)	31.67	70	22.17	10-50	7.56
Obstetrics and Gynecology Problems (18 items)	30.99	126	39.05	18-84	13.39
Genitourinary Problems (14 items)	30.44	98	29.83	14-60	8.59
Neurology, Musculo-skeletal Problems (30 items)	29.24	210	61.40	30-122	17.13
Cancer Problems (9 items)	22.21	63	13.99	9-55	5.71

[a] Mean score divided by maximum possible score.

[b] Number of items in each category X maximum response score for each item in the category, i.e. 7.

mean of each category by the maximum score possible for this category. The fifteen questionnaire categories are arranged in Tables I and II in the descending order of these calculated percentages.

Examination of the study data showed that the nurses, who considered themselves Family Nurse Practitioners, within the operational definition of that title, presented a very diverse picture on almost any demographic characteristic one examined. The Family Nursing Practitioners who responded to this study represented a broad range of ages, came from a variety of background experiences both in education and professional experience, were found in a variety of practice settings and were providing health care under vastly differing environmental conditions and parameters.

The population settings of their practices ranged from remote, rural settlements and isolated trading posts to America's largest cities. At the time the data were collected for this study, the economic settings of their practices were limited, mainly, to areas of low-middle income and poverty income levels. Geographically, although the respondents represented forty of the fifty states, nurses in the states of Kansas, California and North Carolina made up twenty-seven percent of the participating group.

Using the categories of "General Health Care", "Consultations and Referrals" and with respondents' means scores on individual items within these categories as

the basis for reporting, the patient needs the Family Nurse Practitioners most frequently encountered were for someone to take a patient history related to the present illness and for someone to perform a partial physical examination related to this illness. If consultation were deemed advisable by the Family Nurse Practitioner, the patient needed someone to consult with a physician in general/family practice about his or her illness. If referral were deemed advisable by the Family Nurse Practitioner, the patient needed someone to refer him or her to a physician in general/family practice. In the instrument category of "Laboratory Procedures", the most frequently needed competency was that to "Interpret hemoglobin/hematocrit tests".

With regard to the most common health problems these responding Family Nurse Practitioners encountered, ranking from the highest total frequency for a category to the lowest total frequency for a category and identifying, in parenthesis, which problems within a category was most frequently encountered, the study data showed this picture:

Cardiovascular and Respiratory Problems (upper respiratory infections);

Neurology, Musculo-skeletal Problems (headaches);

Eye, Ear, Nose and Throat Problems (throat/tonsil infections);

Emergency Problems (accidental injuries);

Mental Health Problems (psychosomatic/psychophysiological complaints);

Miscellaneous Problems (exogenous/nonendocrine obesity);

Gastroenterology Problems (gastroenteritis);

Allergy and Dermatology Problems (bacterial/fungus skin infections);

Obstetrics and Gynecology Problems (family planning guidance);

Genitourinary Problems (acute/chronic genitourinary infections);

Endocrine Problems (diabetes mellitus);

Cancer Problems (pre and postsurgical cancer care).

Overall, and as a group, these respondents judged themselves to be "Moderately competent" to engage in the activities listed in the questionnaire.

In answer to the study question which sought information concerning sources of current competency and using the group mode as the basis for reporting, study data showed that "On-the-job experience" had been the major source of current competency for ninety-six of the individual activities listed in the questionnaire. "Special programs" had been the major source of current competency for ninety-four of the study's individual activities. "Basic nursing programs" had been the major source of current competency for thirty-one of the study's individual activities. Respondents, as a group, had had no

opportunity to develop competency for sixty-seven of the individual activities listed in the questionnaire.

Tabulation of the study data showed that these participants, as a group, recommended that the development of the competency for one hundred fifty-four of the individual activities covered in the questionnaire be emphasized in "Special Programs" and that the development of the competency for one hundred thirty-three of the individual activities be emphasized in "Basic nursing programs".

When these respondents' answers to the questions of "Current Level of Competency" and "Frequency of Need for Competency" for each of the fifteen questionnaire categories were compared using the analysis of variance procedure and treating present practice sites, population settings of practice and economic settings of practice as independent variables, twenty-six overall F-values were found to be statistically significant at the .01 level. Of the sixteen significant F-values which resulted from the comparison of the respondents' answers on the basis of present practice sites, two of these were related to "Current Level of Competency" and fourteen were related to "Frequency of Need for Competency". Of the four significant overall F-values which resulted when the respondents' answers were compared on the basis of population setting of practice, three were related to "Current Level of Competency" and one was related to "Frequency of Need for Competency". Of the six significant overall F-values

which resulted when the respondents' answers were compared on the basis of economic setting of practice, two were related to "Current Level of Competency" and four were related to "Frequency of Need for Competency".

The twenty-six overall F-values found to be statistically significant at the .01 level of significance by the analysis of variance procedure were further examined using the Newman-Keuls technique for making multiple comparisons. The Newman-Keuls multiple comparison technique detailed which practice sites when compared with other practice sites, which population settings when compared with other population settings and which economic settings when compared with other population settings were responsible for the overall statistically significant differences in the respondents' answers. However, in four instances, the Newman-Keuls technique found that although the overall F-values were significantly different at the .01 level, no pairwise comparisons identified any group whose answers were significantly different from the answers of any other group under study.

The findings which resulted from the use of the Newman-Keuls multiple comparison technique to further analyze the ANOVA data are preferably summarized, only, in extremely general terms. The primary value of the myriad of data provided in this aspect of the study lies in the direction provided for further investigation.

When the ANOVA data were compared on the basis of present practice sites, using the Newman-Keuls technique, the group of nurses practicing in physicians' offices judged themselves to be significantly less competent on the categories of "General Health Care" and "Consultations and Referrals" than some of the groups of nurses serving in the other practice sites judged themselves to be. On the "Frequency of Need for Competency", overall, the group of nurses practicing in hospital outpatient clinics reported a significantly lower frequency of need for nine of the eleven categories than did the groups of nurses serving in the other practice sites. For the remaining two categories, as a group, nurses practicing in physicians' offices reported the lowest frequency of need for competency for the category of "Consultations and Referrals" and nurses practicing in health departments reported a significantly lower frequency of need for competency for the category of "Allergy and Dermatology Problems" than did the groups of nurses serving in some of the other practice sites.

When the ANOVA data were compared on the basis of population settings of practice, using the Newman-Keuls technique, the group of nurses located in small cities judged themselves to be significantly less competent on the categories of "General Health Care", "Consultations

and Referrals", and "Cardiovascular and Respiratory Problems" than some of the groups of nurses serving in other population settings judged themselves to be. The group of nurses practicing in large cities reported a significantly lower frequency of need for competency for the category of "Emergency Problems" than did the nurses in other groups in other population settings.

When the ANOVA data were compared on the basis of economic settings of practice, using the Newman-Keuls technique, the group of nurses serving in middle-income economic settings judged themselves to be significantly less competent on the category of "Consultations and Referrals" than the group of nurses practicing in poverty-income economic settings judged themselves to be. The groups of nurses practicing in middle-income and poverty-income economic settings reported the lowest frequency of need for competency for the category "Consultations and Referrals". The group of nurses practicing in low-middle income economic settings reported the lowest frequency of need for competency for the category of "Gastroenterology Problems" and the group of nurses practicing in poverty-income economic settings reported the lowest frequency of need for competency for the category of "Emergency Problems".

OBSERVATIONS AND INTERPRETATIONS

One can only speculate on possible explanations for the demographic distributions this study data revealed. To date no definitive findings have been published which explain these factors. However, among plausible explanations would seem to be the following:

(1) As stated earlier in this paper, the role of the Family Nurse Practitioner is a comparatively new, dynamic, evolving role for nursing and nurses, especially when one considers the traditional role of nurses in our health care delivery system. As a new role and position, all facets of it are still very much open to exploration and experimentation.

(2) The Family Nurse Practitioners who participated in this study have moved-in to try to fill existing gaps in our health care delivery system. Many of these Family Nurse Practitioners were practicing in areas where adequate physician's services were unavailable and/or inaccessible.

(3) Some individuals, some health care agencies and some states have been more willing and better equipped, in the way of resources and acceptable climate for change, to explore new ways to improve the delivery of health care.

(4) There has been an increasing awareness on the part of government, especially on the federal level, of the need to make health care available and accessible to all citizens. This is particularly true in the case of

disadvantaged citizens, whether that disadvantage be in terms of economic, social, cultural or geographic factors. Many of the Family Nurse Practitioners were serving under the auspices of government-funded pilot programs and demonstration grants.

Careful attention to study data and information volunteered by the respondents has led the investigator to the following observations:

(1) The categories of the questionnaire which resulted in the highest percentage of "Very competent" responses, i.e., "Consultation and Referrals" and "General Health Care", cover those activities which nurses have traditionally performed. Too, these are, principally, the activities delineated in the report of the Secretary's Committee to Study Extended Roles for Nurses (1972) as the activities "for which nurses, now, generally have primary responsibility" (pp. 48-52).

(2) Those categories of the questionnaire which contained the fewest "Very competent" responses were those which covered activities traditionally reserved for physicians, or in the case of "Laboratory Procedures", for specially trained technicians.

(3) Information returned on the "Laboratory Procedures" category of the questionnaire showed that these Family Nurse Practitioners, as a group, are requesting laboratory tests, are performing some laboratory

procedures and are interpreting the results of laboratory tests and procedures performed by themselves and others. This finding supports the statements of Schutt (1972), Brunetto and Birk (1972), Bates (1972) and, again, information contained in the report of the Secretary's Committee to Study Extended Roles for Nurses (1972).

(4) Within the categories of the questionnaire which covered specific health problems, the items on which respondents judged themselves to be most competent and those for which they most frequently had need for competency were those which, overall, according to Lea (1972), are most frequently seen by physicians in general/family practice rather than by physicians in specialty practices. This finding would seem to support the nursing profession's belief that these practitioners, typically, serve in areas where general health care by physicians is either nonexistent, or at best, difficult to obtain, for whatever reasons.

(5) The health problems which these respondents, as a group, indicated as those most frequently encountered agreed with the findings of Bates (1972) when she documented the patient problems encountered by nurse practitioners in the Nurse Triage Area of the Harvard Community Health Organization and the observations of Sheedy (1972) at the time she summarized her personal experiences as a Medical Nurse Practitioner.

(6) Without exception, the respondents, as a group, judged themselves more competent to assess specific health problems than to manage these same problems.

(7) For these respondents, as a group, "Basic nursing programs" had been the major source of competency for those activities associated with the traditional role of professional nurses.

(8) "Special programs" had been the major source of the current competency which many of these respondents judged themselves to have for many of the activities now formally associated with the Family Nurse Practitioner role, e.g., obtaining a health history, performing partial or complete physical examinations, assessing and/or managing specific health problems, initiating diagnostic tests and adjusting medical regimes.

(9) "On-the-job experience" had provided the current competency for many of the activities in which these Family Nurse Practitioners engage. In the category "Consultations and Referrals", "On-the-job experience" was cited by these respondents, as a group, as having been the major "Source of Current Competency" for every single item included.

(10) Only "Basic nursing programs" and "Special programs" appeared as the mode for any item in the column headed "Suggested Place in Nursing Education for Emphasis on Development of Competency". However, the investigator feels it would be remiss not to include some additional

pertinent information volunteered by a few of the study's participants. Some of the respondents indicated that they were recommending "Special programs" because of their familiarity with these programs and because they had little or no knowledge about masters programs on which to base a comparative judgment.

Many of the activities suggested for inclusion in "Basic nursing programs" by these respondents, as a group, are seen by the investigator as being associated with the increased professional responsibility of nurses, e.g., the development of competency to assess many of the specific health problems listed in the study questionnaire.

It, also, seems to the investigator that the competencies which were recommended by these respondents, as a group, for emphasis in "Special programs" are those skills which require a higher level of nursing expertise than is, traditionally, found or expected or sought to be developed in "Basic nursing programs".

(11) Where respondents' answers were found to be different at the .01 level of statistical significance, most of these differences appear to have been based on the frequency of need for various competencies in different practice and different economic settings, and different levels of current competency which nurses in different population settings judged themselves to have. Though these differences, as well as the details of these differences, which were provided by use of the Newman-Keuls

multiple comparison technique, were statistically significant, this investigator believes they are of limited practical significance at this particular time. The length of the questionnaire and the number of respondents made the study, statistically speaking, extremely powerful, i.e., able to detect even very minor differences in responses. Such statistical power is evidenced by the four overall significant ANOVA F-values which yielded no additional information when examined using the Newman-Keuls technique.

Beyond that, in view of the many variations in the Family Nurse Practitioner role as it now exists, it would not seem feasible, at this particular time, to restrict programs to preparation of practitioners for specific practice settings, specific population settings or specific economic settings. Rather, for the present, emphasis should be on generic programs for preparation of Family Nurse Practitioners.

The investigator had expected to find more commonalities in the Family Nurse Practitioner role than the findings of this study and information volunteered by some of the participants would seem to indicate exists. The very wide variety of conditions now surrounding these respondents' professional service makes it impossible to draw any single or simple, well-defined picture of their activities.

For example, in some instances a physician first sees each patient, then, the physician decides whether to

treat the patient or to have the Family Nurse Practitioner treat the patient. In other instances, the Family Nurse Practitioner first sees each patient, then refers each patient to a physician for validation of the practitioner's findings and suggested treatment regime. Following that validation and depending upon the guidelines of each practice setting, the Family Nurse Practitioner, the physician or both may treat the patient. In still other instances, the decision is left entirely to the Family Nurse Practitioner's judgment and discretion whether or not a patient is seen by a physician or is guided to seek additional help or services.

In some states and in some settings, Family Nurse Practitioners are allowed to prescribe and dispense medications. In other states and in other settings, the practitioners can prescribe medications but not dispense them and in still other states and in other settings, exactly the reverse is true, i.e., the practitioner can dispense but not prescribe medications. These are but two examples of a large number of differences found surrounding the professional practice of these Family Nurse Practitioners. Other differences include such service parameters as hours of availability, house calls, hospital calls, writing orders for other professionals and paraprofessionals, and last, but by no means least, financial arrangements.

The role of Family Nurse Practitioner may always be characterized by wide diversity or, as the role matures and applicable state statutes are changed, it may become more clearly defined. Efforts are being made to more clearly define the role. The Council of Family Nurse Practitioners and Clinicians of the American Nurses' Association is currently engaged in developing a set of guidelines for practitioners' education and practice. It is hoped and expected that the role will always be open to innovation and creativity and sensitivity to patients' needs and problems.

Implications for Nursing Education

The study findings indicate that programs of basic nursing education have provided many of the competencies nurses practicing in a traditional nursing role, as well as the Family Nurse Practitioner role, need. Nursing education deserves a great deal of credit for that. The study data, also, show that some of the competencies which these participating Family Nurse Practitioners have had to learn through "On-the-job experience", they, as a group, have recommended for emphasis in "Basic nursing programs".

Nursing education should carefully consider including in "Basic nursing programs" the activities associated with the Family Nurse Practitioner role which these respondents have recommended be included in these programs. These include some activities formerly reserved for

physicians which these participants, as a group, now seem to see as among those which many professional nurses should be able to perform with competency. Many of these activities pertain to the assessment of specific health problems. Faculties of basic programs of nursing education should move to incorporate these assessment skills in the content of their courses of pediatric, maternal-child health, medical-surgical, public health and psychiatric nursing. These skills are seen by many of the study's participants as having great potential, practical value for every professional nurse involved in direct patient care.

As one would expect, the more highly technical skills needed in the Family Nurse Practitioner role have, for the most part, been acquired by these respondents in "Special programs" and/or "On-the-job experience". One must keep this in mind as one studies the respondents' recommendations concerning the place in nursing education where the development of competency for the various activities should be emphasized. However, because of the actual practice experience of this study's respondents, their recommendations which pertain to nursing education provide valuable input available from no other source. The study data would lead one to conclude that these respondents, as a group, seem to be saying that the development of certain fundamental Family Nurse Practitioner skills should be emphasized in "Basic nursing programs" while the development of competency for certain

other Family Nurse Practitioner skills should be emphasized in special programs whose content and learning experiences are dictated by the demands of the differing situations in which the Family Nurse Practitioners are serving. Included among the former, in particular, are assessment skills, consultation and referral skills, and teaching skills. What should be included in the "Special programs" becomes much more difficult to identify and define because of the wide differences in practice protocols and parameters such as those mentioned in this chapter's section on observations. However, perhaps that, in essence, becomes the operational definition for those skills which should be stressed in "Special programs", i.e., those skills which should be stressed in "Special programs" are those which may vary according to practice protocols and parameters--examples of such skills are those necessary for (1) the management of specific health problems frequently encountered by the Family Nurse Practitioner and (2) the performance of the laboratory procedures and tests which the Family Nurse Practitioner most often needs and for which no other convenient, available resource exists.

Whether the Family Nurse Practitioner competencies not recommended for inclusion in "Basic nursing programs" should be stressed in "Special programs" or "Masters programs" is debated freely, often and with fervor. Most of the practitioners, who acquired their Family Nurse

Practitioner skills in Masters programs, and nursing educators opt for Masters programs to teach these skills. Many in these two groups believe that preparation at the Masters level provides the practitioner with a broader knowledge base for decision-making than do special non-degree programs. Too, they probably see a Masters degree as a valuable, well-earned credential and, undoubtedly, both groups are very much aware of nursing's continuous struggle to attain, maintain and enhance its recognition as a profession. This is not to deny the legitimacy of any of these reasons, only to recognize them.

However, just as legitimate and worthy of attention, is the stand of those practitioners who opt for "Special programs" to prepare Family Nurse Practitioners. Those who would speak to this side of the debate cite among their reasons for their choice for placement:

(1) Many nurses, who are now practicing as Family Nurse Practitioners or would like to practice as Family Nurse Practitioners, are graduates of diploma schools of nursing and do not have a baccalaureate degree. This fact, alone, would preclude their being admitted to a graduate program regardless of their proven professional capabilities and motivation.

(2) Many nurses cannot absent themselves from their present living and/or working situations for the one or two years required to complete a graduate program in nursing.

(3) Many nurses who want to practice as Family Nurse Practitioners could make the necessary arrangements to attend classes offered through Continuing Education departments and those available on a Continuing Education basis.

(4) Many nurses who are not interested in academia, per se, see no need for earning a graduate degree in order to acquire the skills they want or need.

One major suggestion for nursing education which would seem to be an outgrowth of this study would be for sincere, open-minded exploration of the feasibility of providing both types of programs as legitimate, convenient routes for nurses to develop the competencies needed for the Family Nurse Practitioner role. For those nurses who want a Masters degree and can make whatever adjustments are necessary in order to earn that degree, such programs should be available. For those nurses who are not interested in additional academic credentials, or cannot make the necessary changes required in order to earn that degree, continuing education programs which would meet their needs to acquire Family Nurse Practitioner competencies should be provided.

Suggestions for Further Research

The investigator believes that a valuable contribution could be made in this field of inquiry by the use of any one or a combination of approaches of inquiry. A

study of state statutes which apply to nursing practice could provide direction for changes nurses see as necessary and desirable in order to facilitate the expansion of nursing practice. A study which would identify more definitively other parameters of the Family Nurse Practitioners' practice would provide valuable data not now readily available. A more narrowly defined operational definition of the term "Family Nurse Practitioner" might bring more commonalities of activities into focus. Another valuable study would be one which would attend to role dimensions which this study made no attempt to investigate, e.g., what are the personal characteristics and qualities and/or the outside factors which Family Nurse Practitioners consider most important for success in this role? What aspects of the role do Family Nurse Practitioners find most satisfying and what aspects of the role do they find least satisfying? A study which would provide insight into these dimensions of the role would be valuable for preparation and evaluation of future Family Nurse Practitioners. Certainly, an investigation of the consumers' perceptions of the Family Nurse Practitioner and his/her role in the delivery of health care offers a fertile area for future research.

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